We claim:

1. A semiconductor component, comprising:

a semiconductor body of a first conductivity type, said semiconductor body having a first doping concentration greater than 5×10^{13} charge carriers cm^{-3} and having a first surface and a second surface, said first and second surfaces being provided opposite from one another;

at least a first electrode disposed on said first surface and at least a second electrode disposed on said second surface;

a semiconductor zone of a second conductivity type opposite to the first conductivity type;

a pn-junction formed between said semiconductor zone of the second conductivity type and said semiconductor body;

at least one of said first and second electrodes being in contact with said semiconductor zone of the second conductivity type;

semiconductor regions of the second conductivity type provided in said semiconductor body;

said semiconductor regions being disposed at a respective distance from said semiconductor zone of the second conductivity type such that said semiconductor regions surround said semiconductor zone of the second conductivity type like a well;

said semiconductor regions being interrupted in each case at at least one location by channels formed by said semiconductor body; and

said semiconductor regions of the second conductivity type having a second doping concentration such that said semiconductor regions are not completely depleted of charge carriers in case of a reverse-biasing of said pn-junction.

2. The semiconductor component according to claim 1, wherein said semiconductor regions of the second conductivity type are interrupted in each case at a plurality of locations by said channels formed by said semiconductor body for increasing a reverse voltage.

3. The semiconductor component according to claim 1, wherein said channels are configured such that electric field spikes are avoided when a reverse voltage is applied between said first and second electrodes.

4. The semiconductor component according to claim 1, wherein:

said semiconductor body has a drift region; and

said channels are provided in said drift region.

5. The semiconductor component according to claim 1, wherein:

said semiconductor body has an edge region; and

said channels are provided in said edge region.

6. The semiconductor component according to claim 1, wherein:

said semiconductor body has an edge zone; and

an insulating zone is provided for shielding charge carriers from said edge zone.

7. The semiconductor component according to claim 1, including an injector disposed in at least one of said first and second surfaces.

8. The semiconductor component according to claim 1, wherein:

one of said first and second surfaces surrounds said semiconductor zone of the second conductivity type; and

field plates are provided on said one of said first and second surfaces.

9. The semiconductor component according to claim 1, wherein:

said semiconductor body has an edge; and

a doped guard ring zone of the first conductivity type surrounds said edge.

10. The semiconductor component according to claim 1, wherein the first conductivity type is an n-conductivity type.

11. A semiconductor configuration, comprising:

a semiconductor component selected from the group consisting of a diode, a MOS transistor and a thyristor;

said semiconductor component including:

a semiconductor body of a first conductivity type, said semiconductor body having a first doping concentration greater than 5×10^{13} charge carriers cm^{-3} and having a first surface

and a second surface, said first and second surfaces being provided opposite from one another;

at least a first electrode disposed on said first surface and at least a second electrode disposed on said second surface;

a semiconductor zone of a second conductivity type opposite to the first conductivity type;

a pn-junction formed between said semiconductor zone of the second conductivity type and said semiconductor body;

at least one of said first and second electrodes being in contact with said semiconductor zone of the second conductivity type;

semiconductor regions of the second conductivity type provided in said semiconductor body;

said semiconductor regions being disposed at a respective distance from said semiconductor zone of the second conductivity type such that said semiconductor regions surround said semiconductor zone of the second conductivity type like a well;

said semiconductor regions being interrupted in each case at at least one location by channels formed by said semiconductor body; and

said semiconductor regions of the second conductivity type having a second doping concentration such that said semiconductor regions are not completely depleted of charge carriers in case of a reverse-biasing of said pn-junction.